Universiti Teknologi MARA

Heart Rate Sensor for Elder People Using ESP8266 NodeMCU

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Thesis submitted in fulfillment of the requirements for
Bachelor of Computer Science (Hons.) Data Communication & Networking
Faculty of Computer and Mathematical Sciences

January 2020

STUDENT DECLARATION

I certify that this project proposal to which it refers is the product of my own project and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the disciplines.

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JANUARY 07, 2020

ABSTRACT

Nowadays, most of the elder people get heart failure because they are not aware of their current heart rate when resting or doing activities. In global application, there are several systems that offer never-ending health observation services within the market. However, most of the developed systems contains temperature sensor which is very sensitive to environment change that can lead to inaccuracy in producing the correct data. The objective of this project is to develop and evaluate the functionality and usability of sensor for heart rate. This project covered the usage of the sensor used in this project that is ESP8266 NodeMCU, pulse sensor and LED to detect the elder people's heart rate and also to display to the elder people about their heart rate on the webpage. This project evaluated the performance of the accuracy of heart rate sensor for the elder people. Three test cases testing were conducted such as measure the heart rate at different way of taking readings, type of disturbance, and type of activities. The results show that the pulse sensor can detect fingertip up to 0.2 cm, not more than that. The higher transfer rate is better for faster response time in producing output. The device can be at distance from mobile hotspot in 12 meters for better network performance. From the analysis, Heart Rate Sensor for Elder People has benefit in accuracy and reduces time taken of readings than manual way. The project is suitable use at home and also for working elder people. The recommendations for future studies are to develop database so the information can be saved and check regularly by time and date. Furthermore, a mobile notification should be developed for future work to ensure fast notification when the elder people get heart attack or the heart rate is high.

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